	er ID 121207 7, 2014 4:05:18 PM			•	*12	1207*							Page 1
Item ID: Revision ID: Item Name:	D3463-1 Arm			,	Accept	*N900	<b>1040</b>	10	<b>N</b> *	Setup	Start Stop	1 (1	S1*
Start Date: Required Date: Reference:		t Qty: 10.00		*10* *10*		Cust Item Customer:					-	*N	S2*
Approvals:	Process Plan:		_		Tooling:	D	Pate:	_		Run	Start	*N	R1*
	QC:	10.	Date:_		<b>SPC</b> (Y/N):	D	ate:				Stop	*//	R2*
Sequence ID/ Work Center ID	Oper Descr	ation ription			Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept	t Rej Qty		Reject Number	Insp. Stamp
Draw Nbr	Revision N	Vbr		*··· **···		'			40	<u> </u>	, 1	- TOTTIDET	Stamp
D3463	Rev B												_
*100 Bandsaw Jeaspa Bandsaw	BAND	SAW  Memo  Cut blank 2	5.00 " long		0.00				10	<u> </u>	2		14-6-20
105 <b>*1 \_</b> Lathe Conv		Memo			0.00			4)	4	<i>-</i> 		DAS	
Conventional Lathe	,		it both ends a	prox 2" deep at	.750" Dia		•	•				∂ <sub>5</sub>	<b>A</b>
*110*	Small F	<sup>2</sup> áb		·	0.00				10				14-08-
Small Fab		Memo			0.00				10			· ·	
Small Fab	· ·	1-Bend as no	er dwa D3463	32 Trim to land	at non dura D24622 D-I								

1-Bend as per dwg D34632-Trim to lenght per dwg D34633- Deburr

DQA:		_ Date:			WORK ORDER NON	~	NITO!	DRAANCE / LIDDATE					`DA'RT
QA Closed:		Date:			WORK ORDER NON-	-((	JNFOI	RIVIANCE / UPDATE	W	ork Order up	odate only		AEROSPACE
<b>14</b> - 1 0 - 1 -		***************************************			DISPOSITION			AGAINS	T DE	PARTMENT	/PROCESS		
Work Orde	er:				Rework	ı İ		Skid-tube Crosstub	$^{\prime}$	7	Water Jet	1	Engineering
Part N	lo			—	Scrap Use-as-is			Machining Small Fa	b	-1	d. Eng. Coor. re/Packaging		Quality Other
NCR N	lo				Suspected Unapproved			Large Fab Composit	_	]	Supplier		
Root				Descr	ription of work order update	ı	nitial	Action		Sign &			
Cause	Date	Step	Qty		or non-conformance	Ch	ief Eng	Description		Date	Verification	Ц.	QC Inspector
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Handling/Pre													
Material					-								
Operator						İ							
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Unapproved	!	1											
						FAI	ULT CAT	regory					•
Landir	ng Gear				General		1	•		1			
	Bending				Bend *	<u> </u>	•	rogram	-	Outside Dim	<u> </u>	—-	ressure/Forced
	_	lot Conce	ntric		BOM/Route	<u> </u>	Grain		-	Over/Under	-	_	et-up
	Cracks				Broken/Damage/Defect		Hardwa		$\vdash$	Part Incorred		_	emperature/Cure
		ink/Ripple	e/Wave	-	Burrs	<u> </u>	1 '	ion Incomplete/Unqualified	-	Part Lost/Mi	ssing	_	Veld
	Cuffs				Contamination		4	ions Incomplete/Unclear	-	Part Moved	. <i>.</i>		Vrong Stock Pulled ,
	Crushing				Countersink	_	1	ned/off center	-	Positioned V		7,	, Nelson
*	Heat Tre			<u> </u>	Cut Too Short		Mislabe		L	Power Loss/	Surge `_	10	Other
		on Strip in	Tube	<u> </u>	Drawing	$\vdash$	Misread	t ,					
	Marks/C			<u> </u>	Drill Holes	<u></u>	Off-set						
	_	Sequence			Finish		4	Calibration		<del></del>			
	Wave/Tv	wist in Tul	be		Fit/Function	1	1Out of 9	Sequence					•

Work Orde Tuesday, June 1				*12	1207*						Page 2
Revision ID: Item Name:	D3463-1 Arm 6/23/14 7/04/14	<b>Start Qty:</b> 10.00 <b>Req'd Qty:</b> 10.00	*10* *10*		*N900 Cust Item Customer:	ID:	10	<b>n</b> *	Setup St St		S1*  S2*
Approvals:	Process Pl	an:	Date:	Tooling: SPC (Y/N):		ate:		1	Run Sta	, 1/1	R1* R2*
equence ID/ Vork Center ID 20	)	Operation Description QC5- Inspect part comple	eteness to step on W/O	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
T 20*		<b>Memo</b> Ensure 90 de	g angle is within tol. (+/-	0.00 0.5deg) critical dim.				(D)	14.8	D8/29	9-89 9-89
₃₀ '1.3∩*		CONVENTIONAL MILL	ING MACHINE	0.00			•		d		~
Mill Conv onventional Milling	Machine	Memo	dwg D3463(One side or	0.00				(0	Ø	-	J.C.Z.

140

QC2- Inspect parts off machine FAI/FAIB

1- Drill as per dwg D3463(One side only) 2-Deburr as per dwg D3463

0.00

Memo

0.00

Quality Control

DQA:		Date:	<del></del>		. WORK ORDER NON	~	NEO	DAAANCE / 11	DDATE				`DART.
QA Closed:		Date:			WORK ORDER NON	-((	JNFOI	RIVIAINCE / U	PDATE	W	ork Order up	odate only	AEROSPACE
NA/auli Ouda					DISPOSITION				AGAINST	DE	PARTMENT	/PROCESS	
Work Orde	[ ·		<del></del>		Rework			Skid-tube	Crosstube	Г	1	Water Jet	Engineering
Part N	o	···			Scrap Use-as-is			Machining noforming	Small Fab Finishing		- <b>1</b>	d. Eng. Coor. re/Packaging	Quality Other
NCR N	0				Suspected Unapproved			Large Fab	Composite		]	Supplier	
Root		<u> </u>		Desci	ription of work order update	i	nitial	Act	ion		Sign &		
Cause	Date	Step	Qty		or non-conformance	Ch	ief Eng	Descr	ription		Date	Verification	QC Inspector
Design											•		
Doc/Data													
Equip/Tooling													
Handling/Pre													
Material 1		,											
Operator								:					
Offset/Setup													
rocess								·					
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Training													
Fransport													
Jnapproved		l							···				
						FA	ULT CA	regory					
Landin	g Gear			_	General	_	1 .				7	<u></u>	<b>-</b>
-	Bending				Bend		4	rogram		<u></u>	Outside Dim	<u> </u>	Pressure/Forced
	Centre No	ot Concei	ntric		BOM/Route	L	Grain			<u></u>	Over/Under	F-	Set-up
Ļ	Cracks			<u> </u>	Broken/Damage/Defect		Hardwa				Part Incorred	<b>—</b>	Temperature/Cure
Ļ	Crimp/Kir	nk/Ripple	e/Wave	<u> </u>	Burrs	<u>.                                    </u>	1	ion Incomplete/Ur		<u> </u>	Part Lost/Mi	ssing	Weld
. 1	Cuffs				Contamination	_	4	ions Incomplete/U	Jnclear	<u></u>	Part Moved	L	Wrong Stock Pulled
	Crushing				Countersink	<u> </u>	4	ned/off center		<u> </u>	Positioned V	_	ا ا
L	Heat Trea				Cut Too Short	_	Mislabe		-		Power Loss/	Surge	Other
Ļ	Inspectio	•	Tube		Drawing	_	Misread						
Ļ	Marks/Ch				Drill Holes	_	Off-set						
ļ	Turning S			_	Finish	_	4	Calibration					
	Wave/Tw	ist in Tul	be	[	Fit/Function		Out of S	Sequence					

Work Ord					*12	1207*							Page
Item ID: Revision ID: Item Name: Start Date: Required Date Reference:	D3463-1  Arm  6/23/14  2: 7/04/14	Start Qty: 10.00 Req'd Qty: 10.00		*10* *10*	Accept	*N900 Cust Item Customer	ı ID:	10	<b>N*</b>	Setup	Start Stop		S1* S2*
Approvals:	Process Pl	lan:	Date:_ Date:_	·	Tooling: SPC (Y/N):		Date:		]	Run	Start Stop	*N	R1*
Sequence ID/ Work Center I  150  *150* QC Quality Control	D	Operation Description QC8- Inspect parts - second	d check		Set Up/ Run Hours 0.00	Tool ID	Tool#	Plan Code	Accept Qty	Qty	]	Reject Number	Insp. Stamp
160 *1AA* Packaging Packaging		Identify as per dwg & Stock  Memo	c Location	··w/kas	0.00				_/0	_E	Z	[4]0	>-27

0.00

0.00

QC21- Final Inspection - Work Order Release

Memo

170

\*170\*

Quality Control

Page 3

DQA:		Date:												"DART
QA Closed:		Date:			WORK ORDER NON-	-C(	JNFOI	RIVIANCE / U	PDATE	W	ork Order up	odate only		AEROSPACE
					DISPOSITION				AGAINST	DE	PARTMENT	/PROCESS		
Work Order	·:				, ,_	1		G1 : 1 A : 1 = -	C		1	18/ator lot[	$\neg$	Engineering [
Part No	o		<del></del>	<del></del>	Rework Scrap Use-as-is			Skid-tube Machining noforming	Crosstube Small Fab Finishing		4	Water Jet d. Eng. Coor. re/Packaging	$\dashv$	Engineering Quality Other
NCR No	o				Suspected Unapproved			Large Fab	Composite		]	Supplier		
Root				Desci	ription of work order update	1	nitial	Act	ion		Sign &		П	
Cause	Date	Step	Qty		or non-conformance	Ch	ief Eng	Descr	ription		Date	Verification	<u> </u>	QC Inspector
Design													1	
Doc/Data														
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Material														
Operator														
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Unapproved			<u> </u>			<u> </u>						<u> </u>		
	······				······	FAL	JLT CAT	regory					<del></del>	
Landing	<del>-</del>			_	General		1			_	1		$\neg$	
L	Bending				Bend		1	rogram		<u> </u>	Outside Dim		_	Pressure/Forced
-	Centre No	ot Concei	ntric	_	BOM/Route	-	Grain			⊢	Over/Under		-	Set-up
L	Cracks				Broken/Damage/Defect		Hardwa			L	Part Incorred		-	Temperature/Cure
_	Crimp/Kir	nk/Ripple	/Wave	<u> </u>	Burrs	$ldsymbol{ld}}}}}}$		ion Incomplete/Ur	•	<u> </u>	Part Lost/Mi	ssing	-	Weld
<u> </u>	Cuffs			<u> </u>	Contamination	<u> </u>	1	ions Incomplete/U	Jnclear	<u> </u>	Part Moved			Wrong Stock Pulled
_	Crushing			<u> </u>	Countersink	Ш	1	ned/off center		<u> </u>	Positioned V	· -	_	
_	Heat Trea			<u> </u>	Cut Too Short	<u> </u>	Mislabe				Power Loss/	Surge	<u></u> '	Other
<u> </u>	Inspectio	•	Tube	<u> </u>	Drawing		Misread							
	Marks/Ct			<u> </u>	Drill Holes	$\vdash$	Off-set							
_	Turning S				Finish	<u> </u>	1	Calibration						
	Wave/Tw	ist in Tul	oe -		Fit/Function		Out of S	Sequence						

**Picklist Print** 

Tuesday, June 17, 2014 4:05:22 PM

Work Order ID: 121207

\*121207\*

Parent Item:

D3463-1

\*D3463-1\*

Parent Item Name: Arm

**Start Date:** 6/23/14

Required Date: 7/04/14

**Start Qty: 10.00** 

2.083

Required Qty: 10.00

**Comments:** 

Item Name

IPP REV. A 05.11.17 NEW ISSUE EC ADDED MANUAL LATHE STEP 10-06-02 JLM VER:DD

IPP REV:B

Replacement Mfg/ **Item ID** 

Bin Primary Item Location Last Location

M126182

Route Seq ID

Unit of Oty on Measure Hand

Qty per Kit Total

\*\*

Qty

Qty Issued Date Status **Issued** 

Page 1

M316TR1.00W.120

Component Item ID/

Purchased

Purch

No

100

f

98.0737

14-6-20

\*M316TR1 00W 120\*

316 RD tubing 1.00 x .120w

MAT018

Loc Oty 98.073684 Loc Code

Location

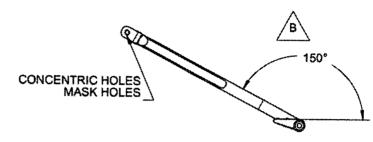
98.073684

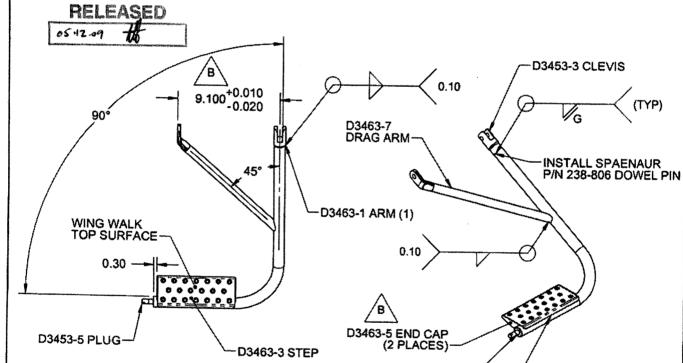
DQA:	··.	. Date:			WORK ORDER NON	~	ANE O	DAAANCE / III	DDATE				"DART
QA Closed:		Date:			WORK ORDER NON-		JINFOI	NIVIAINCE / UI	PUAIL	W	ork Order up	odate only	AEROSPACE
					DISPOSITION				AGAINST	DE	PARTMENT	/PROCESS	
Work Orde	r:				D	ı		Child Author	Cuanatuba		1	Water Jet	Engineering
Part N	0	<u>, ,</u>			Rework Scrap Use-as-is			Skid-tube Machining noforming	Crosstube Small Fab Finishing		4	d. Eng. Coor.	Quality Other
NCR N	0				Suspected Unapproved		mem	Large Fab	Composite	<b>—</b>	]	Supplier	
Root				Desci	ription of work order update		Initial	Act	ion		Sign &		
Cause	Date	Step	Qty		or non-conformance	Ch	ief Eng	Descr	ription		Date	Verification	QC Inspector
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Doc/Data													
quip/Tooling													
Handling/Pre													
Material [													
Operator													
Offset/Setup													
Process													
Supplier													
Fraining													
Fransport													
Jnapproved													
						FA	ULT CA	regory					
Landin	g Gear			_	General		-				7		9
	Bending				Bend		Folio/F	Program			Outside Dim	<u> </u>	Pressure/Forced
	Centre No	ot Conce	ntric		BOM/Route		Grain			_	Over/Under	<u> </u>	Set-up
	Cracks				Broken/Damage/Defect	$oxedsymbol{oxed}$	Hardwa	ire			Part Incorred	_	Temperature/Cure
	Crimp/Kir	nk/Ripple	e/Wave		Burrs	L	Inspect	ion Incomplete/Ur	nqualified	L	Part Lost/Mi	ssing	Weld
	Cuffs				Contamination		-1	tions Incomplete/l	Jnclear		Part Moved	· L	Wrong Stock Pulled
	Crushing				Countersink		Misalig	ned/off center			Positioned V		7
	Heat Trea	at			Cut Too Short	L	Mislabe	eled			Power Loss/	Surge	Other
	Inspectio	n Strip in	Tube		Drawing	L	Misrea	t					
	Marks/Ch	natter			Drill Holes		Off-set						
	Turning S	equence			Finish		Out of	Calibration					
Ī	Wave/Tw	ist in Tul	be		Fit/Function		Out of	Sequence					



DESIGN R	•	DRAWN BY RF	DART AEROSPACE LT HAWKESBURY, ONTARIO, CANAL	
CHECK	ED 借	APPROVED #	DRAWING NO.	REV. B
 DATE	05.1	2.05	TITLE STEP WELDMENT	SCALE
Α	0	5.09.20	NEW ISSUE	·
₿	0:	5.12.05	REVISE DIM.; D3463-5 WAS D3463-5F	

INSTALL P/N 238-806 DOWEL PIN V<sub>G</sub> MASK THREAD **AREA** 1.045





NOTES:

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RETURN TO

1) WELD PER DART QSI 004
2) FINISH: POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED NO.
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.010
6) IDENTIFY WITH DART P/N USING FINE POINT PERMANENT INK MARKER

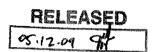
D3463-042 STEP WELDMENT ASSEMBLY D3463-041 OPPOSITE

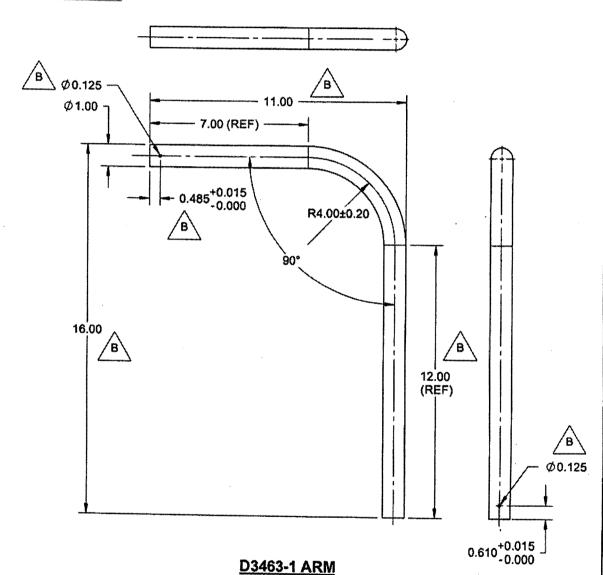
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DESIGN RF	DRAWN BY RF	DART AEROSPA( HAWKESBURY, ONTARIO	
CHECKED	APPROVED #	DRAWING NO. D3463	REV. B SHEET 2 OF 4
DATE 05.1	12.05	STEP WELDMENT	SCALE 1:4





### NOTES:

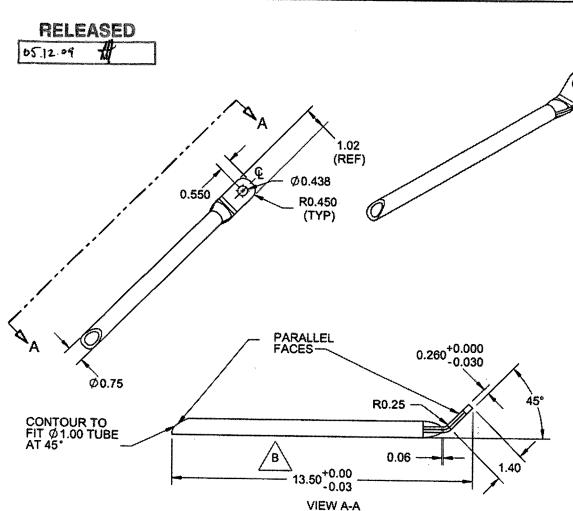
- 1) MATERIAL: AISI 316/304 SS SEAMLESS TUBING (REF. DART SPEC. M304TR1.000W.120) 2) FINISH: NONE 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED 4) ALL DIMENSIONS ARE IN INCHES 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.025

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DESIGN RF	DRAWN BY RF	DART AEROSPAC HAWKESBURY, ONTARIO,	
CHECKED	APPROVED	DRAWING NO. D3463	REV. B SHEET 3 OF 4
DATE 05.1	2.05	STEP WELDMENT	SCALE 1:4



# **D3463-7 DRAG ARM**

#### NOTES:

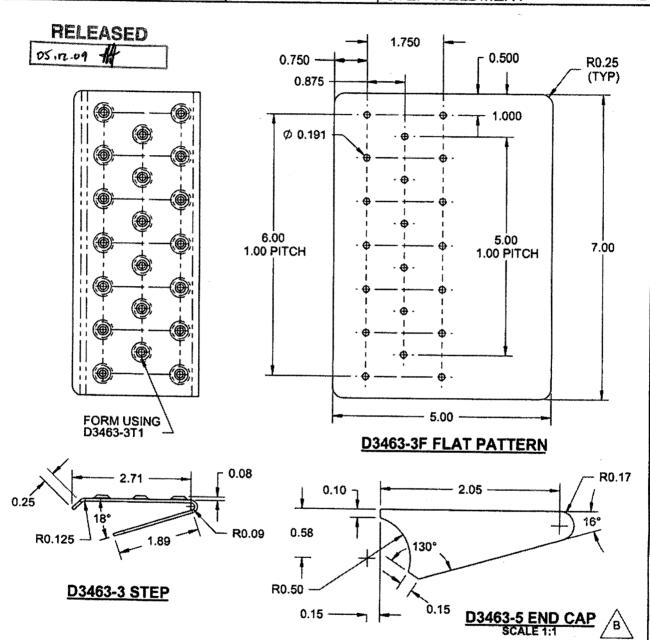
- 1) MATERIAL: AISI 316/304 SS SEAMLESS TUBING (REF. DART SPEC. M304TR0.750W.120) 2) FINISH: NONE 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED 4) ALL DIMENSIONS ARE IN INCHES 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.010

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DESIGN RF	DRAWN BY	DART AEROSPAC HAWKESBURY, ONTARIO,	
CHECKED	APPROVED	DRAWING NO. D3463	REV. B SHEET 4 OF 4
DATE 05.1	12.05	TITLE STEP WELDMENT	SCALE 1:2



#### **NOTES:**

- 1) MATERIAL: AISI 304/316 SS SHEET, 0.060 THICK (REF. DART SPEC. M304S16GA) 2) FINISH: NONE 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED 4) ALL DIMENSIONS ARE IN INCHES 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.010

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DART AEROSPACE LTD	Work Order: (2 1 207
Description: Arm	Part Number: [) 34 63-1
Inspection Dwg: 03463 Rev: 3	Page 1 of 1

## FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
11.00	t- 0.030	11.000	V		H 6	31 006
12.00	4-0.030	12.00	1		(1	
7.00	t. 0.030	7.00			1/	
900	t. 0.5°					
1 - () <b>0</b>	tr- 0.030	i.003	V		Caliper	JCL-08
00.125	+ 0.005	0.126	V		Pin Gauge	
0-485	+0.015 -0.008	0.491	V		Caliper	JC6-08
Ø 0.125	+ 0.00S	0.126	V		Pin Gauge	
0.610	+0.01S -0.000	0-618	1		Caliper	JCL-08
R 4.00	5- 0.200	4.000	V		8" Tube	

Measured by: JL, しがH	Audited by:	onl	Preliminary Approval:	
Date: 14/09/11/2014-014	Date:	14/09/15	Date:	

				<del></del>
Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	